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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/770,864	01/26/2001	Douglas M. Albert	IRV1.PAU.40	7129

7590

12/08/2003

Joseph C. Andras  
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EXAMINER
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TRINH, MINH N

ART UNIT	PAPER NUMBER
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3729

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DATE MAILED: 12/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/770,864

Applicant(s)

ALBERT ET AL.

Examiner

Minh Trinh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE filed on 9/22/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) 4,7-10,13-19 and 22-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,11,12,20,21,46 and 47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Prosecution Application*

1. Receipt is acknowledged of the "conditional" request for RCE application is acceptable and a RCE has been established. An action on the CPA follows.
2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-3, 6, 11 and 46-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al (US 5,701,233) in view of Dlugokecki (US 5,700,697).

Carson et al disclose the method for making stackable microcircuit device comprising steps of providing a plastic encapsulated microcircuit (PEM, or module, 10, 12, 14, col. 8, lines 46-48) that includes a microcircuit having an active surface containing IC and bonding pad 52 or 54 (see Figs. 4-5, and the discussion at col. 9, lines 57-59). Carson et al, however is silently disclosed the encapsulant is being contacted the microcircuit 52 and the modifying the encapsulating to expose a conductive member as so to connecting the PEM to the IC circuit I/O bonding pad. Dlugokecki teaches the step of removing the encapsulant (see Fig. 7, col. 10, lines 58-63) to produce the modified PEM having a modified surface on which the modified surface is exposed a conductive member (see col. 2, lines 31-51). Therefore, it would have been obvious to one ordinary skill in the art at the time the invention was made to employ the Dlugokecki's teaching of removing the encapsulant material to expose a

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conductive member of the PEM onto the method invention of Carson et al in order to expose part of the conductive member for various known benefits such as reconstructing and/or integrating a number of IC circuits to form a tacking electronic circuit assembly.

As applied to claim 2, noting figures 4 and 6 of Dlugokecki depicts the forming leads 65 on the modified PEM to an edge of the modified PEM.

As applied to claim 3, regarding the microcircuit is a pre-tested circuit. It would have been an obvious matter of design choice to choose any desired type of circuitry since applicant has not disclosed that the microcircuit is a pre tested microcircuit is a critical feature of the invention and it appears that the invention would perform equally well with the circuit module circuitry as taught by each of the applied prior art references.

As applied to claim 6, noting the Dlugokecki reference discloses the concept of covering the lead by applying insulation layer (see abstract lines 10-13).

As applied to claim 11, each of the applied prior art references disclose the limitation of claim 11 a conductive member (solder) for connecting wire bond.

Limitations of claims 46-47 are met by as discussed above (note each of the prior art references discloses the body or substrate is plastic).

4. Claims 5, 12 and 20-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Carson et al in view of Dlugokecki and further in view of Young et al (US 6,429,028).

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As applied to claim 5, Carson et al or Dlugokecki as modified and relied upon above do not teach the step of thinning a backside of the modified PEM and the conductive member is a gold ball. Young et al teach the thinning a backside of thickness of the PEM (col. 9, lines 32-34); and the conductive member is a gold ball as recited in claims 12, 20 and 21 (see col. 7, lines 59-60). Therefore, it would have been obvious to one ordinary skill in the art, at the time of the invention to employ the Young's teaching as described above onto the modified method invention of Carson et al or Dlugokecki in order to obtain a desired interconnecting structure with the exact size and material associated requirement therefrom.

Limitations of claims 12, 20 and 21 (refer to the above discussion). Moreover, it would have been an obvious matter of design choice to choose any desired conductive member, since applicant has not disclosed that the material is gold ball as recited in claims 12, 20 and 21 would solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the teaching of the applied prior art (i.e., solder wire bond pads).

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 1-3, 5-6, 11-12 and 46-47 have been considered but are moot in view of the new ground(s) of rejection.

### ***Prior Art References***

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6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Prior art references are cited for their teaching of method of stacking PEM devices.

***Conclusion***

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Minh Trinh whose telephone number is (703) 305-2887. The examiner can normally be reached on Monday -Thursday 8:00 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on (703) 308-1789. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-7307 for regular communications and (703) 305-3579 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



Examiner Group 3729

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December 1, 2003